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HOUSEKEEPERS' CHAT

Wednesday, December 1, 1937

(FOR BROADCAST USE ONLY)

Subject: "POT AND PAN ECONOMY." Information from the Office of Experiment Stations, U. S. Department of Agriculture.

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Here's the day of the month when the bills come in. So I have brought you some news about your gas or electric bills and your kettles and pans.

Did you ever wonder whether your cooking utensils had anything to do with the size of your fuel bills? Whether your faithful old frying pan, say, was wasting electricity from your new range? Or whether your kettles and saucepans were using more gas than necessary?

A good many housewives have been asking such questions. And just lately workers at 3 State experiment stations have found the answers in the course of their investigations of kitchen ranges. You may have heard that at the Maine and Iowa stations they've been making studies of electric ranges. And at Nebraska they've been studying gas stoves. And they all agree that the kind of utensils you use in cooking may affect your bills -- that some kettles and pans are wasteful and some are economical of fuel.

All 3 studies show that the size of the pan, the size of the bottom particularly, is very important for economy. The bottom that fits the gas-grate or electric-unit it cooks on saves considerable fuel.

For cooking on a gas stove the Nebraska workers found the economical utensil was always one with a bottom that slightly more than covered the grate, because this size absorbed the most heat. They reported that large-sized pans, those holding 5 quarts, used less gas than the smaller 2-quart size because they covered the gas grates and didn't let heat escape around the side.

Maine and Iowa workers also found that the kettle with a bottom to fit the stove-unit saved electricity. In all their tests, utensils with bottoms wide enough just to cover the heated unit proved most economical. They found that when the kettle was smaller than the unit, heat was given off around the pan and lost -- the bottom was too small to absorb it all. On the other hand, when the kettle was too large and extended much beyond the heated unit, it lost a good deal of heat from both sides and top. This rule holds not only for one pan but also for the sets of duplicate or triplicate pans to be used on one burner.



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The economical pan has a bottom that not only covers but also "hugs" the heat, both the Iowa and Maine studies showed. In other words, flat bottoms, especially for covered units, are as important as bottoms of the right size. Bulged or warped bottoms, those that teeter and totter on the stove, are expensive to use. The Maine investigators found that a pan with a bulged bottom could use from 3 to 6 dollars' worth of electricity a year more than a pan with a flat, firm, close-fitting bottom. They also found that utensils like frying pans and teakettles, made with a rim around the bottom -- a rim that raised them from the stove, used extra electricity.

Sides as well as bottoms may have their effect on the electric bill. Both Maine and Iowa workers reported that utensils with straight sides used less heat than flaring sides. Apparently, styles in figures change, even with kettles and pans. The old-fashioned style had a narrow bottom and flaring sides. But the today's fashionable and fuel-saving model has a broad, flat bottom and straight up-and-down sides.

It also has a tight-fitting lid. The warped or bent cover, like the bulged bottom, wastes electricity. But a tight-fitting cover, or a cover that sets firmly all around the rim, will keep the kettle boiling when the electricity is turned to "low." With no cover or with a cover so bent that it lets in considerable air around the top, a good deal of heat may be lost by evaporation. So a cover that fits well for every pan is an economy. But the Maine investigators find no added advantage in fancy covers -- covers with special devices for holding in steam. They say that clamps and weights and so on are unnecessary except on a pressure cooker.

The Nebraska study of gas stoves also showed that good covers on kettles were fuel-savers. They save gas as well as electricity. And the Nebraska workers note that since covers on enamelware generally don't fit so tightly as those on aluminum, you'll be wise to consider the cover before you buy.

So much for the size and shape of the modern economical pan. Now about the material and the finish. You'll find kettles and pans of many sorts on the market today -- enamelware, aluminum, stainless steel, copper, iron, and so on. So you may be relieved to know that the Iowa workers found that the material of the pan had comparatively little effect on its cooking efficiency. They reported that enamelware, copper and aluminum were just about equal in efficiency except that black-bottom aluminum pans proved slightly more efficient than natural finish aluminum. Both Iowa and Maine workers found that on shiny-metal like aluminum, copper or stainless steel black bottoms on pans helped save electricity, but that on enamelware they were not worth an extra price. And the Maine study showed that even on aluminum, black bottoms were not an economy when used on closed or chromalox electric units.

By the way, heavy aluminum is more economical in the long run than the very cheap thin ware that soon warps and then uses so much more electricity. And then, too, a thick pan often heats as rapidly as a thin one because it has more contact with the unit.

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